

REPLACEMENT SHEET

FIG. 1

layer two data center network

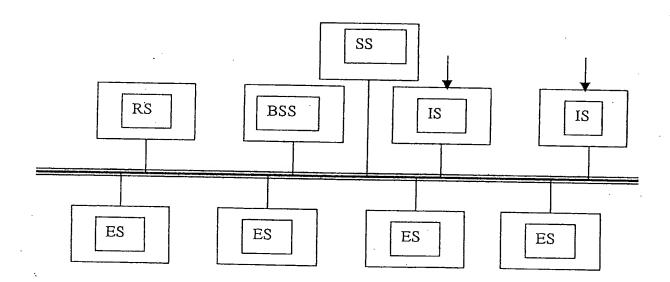
ES: End System

IS: Intermediate System

SS: Control System

BSS: Backup Supervisor System

RS: Radius Server used for Authentication, Authorization, and Accounting (AAA)





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	FI	G. 2(a)	
End		Control	
System		System	
Service rep	gistration reque	st	>
Service reg	gistration ackno	owledge	
Keep-alive	message		
E		ster its service G. 2(b)	from Control system
End		Control	
System		System	
Service de	-registration rec	quest	· >
Service de	registration acl	knowledge	

End system de-register its service from Control system



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FIG. 3(a)

Intermediate System Control System

Service add update (seq n)
Service add update acknowledge (seq n, from IS1)
Service add update acknowledge (seq n, from IS2)
Service add update (seq n+1)
Service add update acknowledge (seq n+1, from IS1)
Service add update acknowledge (seq n+1 from IS2)
···

Control system sends update about new end systems (servers)



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FIG. 3(b)

Intermediate System

Control

System

Service delete update (seq n)
Service delete update acknowledge (seq n, from IS1)
Service delete update acknowledge (seq n, from IS2)
Service delete update (seq n+1)
Service delete update acknowledge (seq n+1, from IS1)
Service delete update acknowledge (seq n+1 from IS2) →

Control system sends update about deleted end systems (servers)

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FIG. 3(c)

Intermediate System Control System

Service update request
Service add update (1 st update, seq n)
Service add update acknowledge (seq n)
Service add update (2nd update, seq n+1)
Service add update acknowledge (seq n+1)
···
Service add update (last update, seq n+x)
Service add update acknowledge (seq n+x)
Keep-alive message
· · · · · · · · · · · · · · · · · · ·

New intermediate system (possible an end system too) retrieve the server list for a specific type of service



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FIG. 5

End System

Intermediate System

Flow advertisement message

Flow advertisement acknowledge

Flow advertised by an end system

FIG. 6

Any System Control

System

Assigned number request

Assigned number reply

Request number(s) from centrally controlled number server (CS)



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Back up		·	Control		
Supervis	or System		System		
	Number upo	date request			
	Number update (1st update, seq n) Number update acknowledge (seq n)				
	Number update (2nd update, seq n+1) Number update acknowledge (seq n+1)				
			 7		
	Number upd	late (last update, seq n-	+x)		
	Number upd	ate acknowledge (seq	n+x)		

New back up control system to retrieve the assigned number list from Primary control system